

## Additions to the Thysanoptera of New Caledonia

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In the "Introduction to the Thysanoptera of New Caledonia" (Proceedings 12, 2:249, 1945) I recorded 22 species. I now add five species to the original list, all given me by Noel L. H. Krauss, of the Board of Agriculture and Forestry of Hawaii, who collected in New Caledonia from May to July 1950. Three of these are here described as new; one is already known in the Pacific; the fifth is probably a species from Malaya. All the type material is deposited in the collection of the Experiment Station, H.S.P.A.

### *Dichaetothrips setidens* (Moulton)

1928 *Mesothrips setidens* Moulton. Proc. Haw. Ent. Soc. 7, 1:129

1935 *Cryptothrips niger* Moulton and Steinweden. B. P. Bishop Mus. Bull. 114:165

1939 *Dichaetothrips niger* (Moulton and Steinweden). Moulton, Occ. Papers B. P. Bishop Mus. 17, 22:308

Described originally from Hawaii; known also from Fiji, the Gambier and the Mangarevan Islands. One female collected by Krauss at Noumea in August 1950.

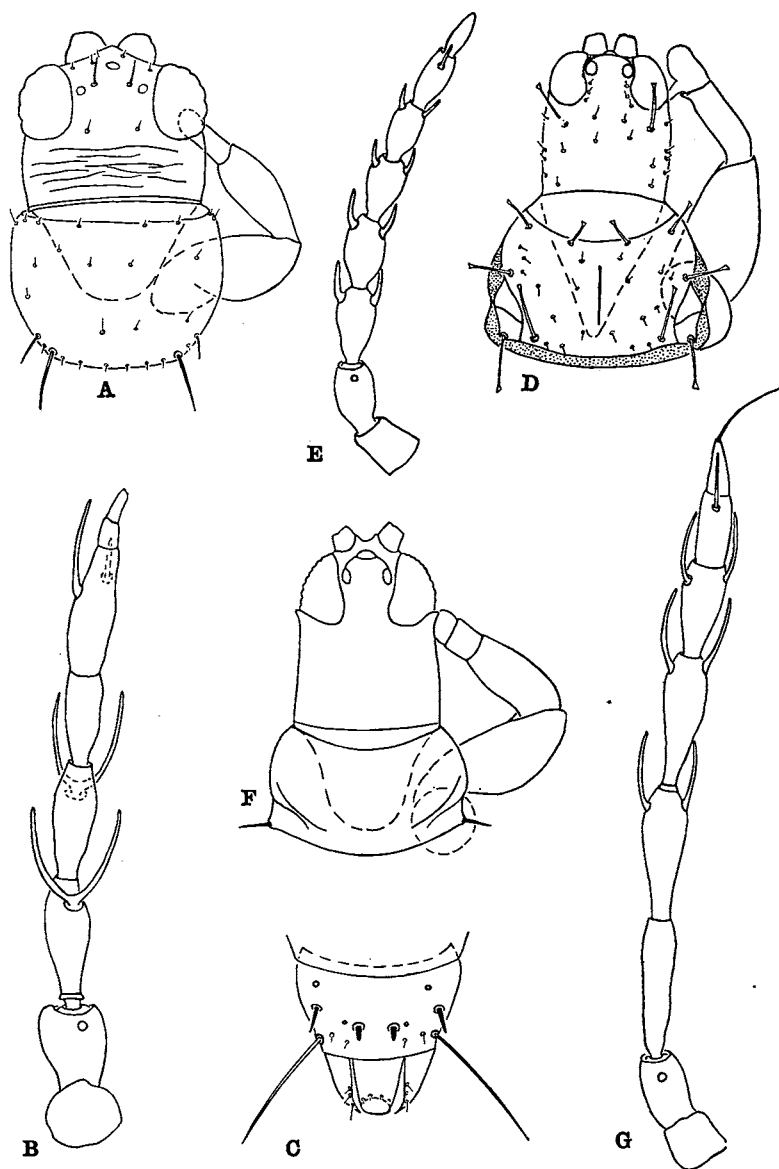
### *Adraneothrips* sp.

Two males and several nymphs collected by Krauss in rolled leaves of an undetermined plant. This is probably the Malayan *A. fuscicornis* Bagnall (1929—Ann. Mag. Nat. Hist. (10) 3:606), but as the description is based on a single female, a positive determination of the New Caledonia species must be deferred until females become available for study.

### *Arrhenothrips pacificus* sp. nov. (figures F, G)

*Macropterous female*.—About 2.6 mm. long. Color by transmitted light, dark chestnut brown; tube distally and abdominal segments 2 to 6 medianly somewhat lighter; fore tibiae, particularly distally, tending to yellow; fore tarsi yellow with dark distal macula. Antennal segment 1 concolorous with head, 2 shaded with yellow in outer half, 3 entirely yellow, 4 concolorous with 3 at base but gradually suffused with brown distally, 5 to 8 gradually darker brown but much lighter than 1 and 2.

Head 0.23 mm. long, 0.22 mm. wide across cheeks which are slightly and gradually constricted back of eyes and thence nearly straight and parallel to base. Vertex full but not produced beyond eyes, bearing posterior ocelli close to eye margin, anterior ocellus on frontal declivity. Eyes finely faceted, not protruding, occupying about two-fifths of head length and, together, about three-fifths of head width, their inner angles widely rounded, their inner edges emarginate around posterior ocelli. Dorsum with many fine anastomosing striae, with scattered thorn-like microsetae particularly prominent on the cheeks. Postocular setae clear, expanded at end, about four-fifths as long as eye, set less than half its own length from hind margin of eye and about same distance from cheek. Mouth cone acute, nearly attaining hind margin of prosternum. Antennae as illustrated.



A. *Oxythrips festivus* sp. nov. Head and prothorax of female. B. *O. festivus* sp. nov. Right antenna of female, dorsal view. C. *O. festivus* sp. nov. Ninth and tenth abdominal segments of male, dorsal view. D. *Leeuwenia angulata* sp. nov. Head and prothorax of female. E. *L. angulata* sp. nov. Right antenna of female, dorsal view. F. *Arrhenothrips pacificus* sp. nov. Head and prothorax of female, dorsal view. G. *A. pacificus* sp. nov. Right antenna of female, dorsal view.

Prothorax without coxae 0.16 mm. wide, 0.09 mm. long; median suture thick, but not attaining either front or hind margin; disk with weak reticular and sub-reticular striation and about 12 pairs of microsetae. Normal bristles present, clear or nearly so and expanded at end; epimerals and postero-angulars about equal, longer than laterals and antero-angulars which are also about equal; antero-marginals shortest; coxals about as long as laterals. Legs normal to the genus; fore femora greatly incrassate; fore tibiae with broad tubercle-like distal production of the inner angle; basal segment of fore tarsi with a stout spur and on the outside with a small claw.

Pterothorax about as prothorax in front, with the sides weakly arcuate and convergent posteriorly. Metascutum distinctly reticulate, bearing a pair of small bristles widely separated near the mid-transverse line and a compact group of three microsetae at each front angle. Wings lightly and evenly yellowish brown, with 15-17 duplicated ciliae; the first two sub-basal setae about equal and expanded at end; the third shorter and pointed.

Abdomen evenly wide to segment 7; segment 8 suddenly narrowing to 9. Segments 2-7 with well developed sigmoid and postero-angular setae and bearing a pair of small pori on the mid-transverse line close to the meson. Bristles on segment 9 about three-fifths as long as tube; terminals about four-fifths. Tube nearly twice as wide at base as at end; the sides more strongly convergent in distal 7th or 8th.

Measurements of female in millimeters: Head length 0.255; head width 0.246; eye length 0.096; eye width 0.070; prothorax length 0.193; prothorax width (somewhat expanded) 0.369; pterothorax width in front 0.440; width of fore femora 0.140; tube length 0.220; tube width at base 0.088; tube width at end 0.044; setae: postocular 0.079; epimeral 0.105; postangular 0.096; midlateral 0.070; antero-angular 0.061; antero-marginal 0.035.

Antennal segments:	1	2	3	4	5	6	7	8	Total
Length .....	.041	.053	.061	.057	.053	.053	.053	.041	.415
Width .....	.036	.036	.036	.036	.036	.032	.024	.016	

*Macropterous male*.—Generally smaller than female (about 2.5 mm. long) but in color and shape similar to it, except for sexual differences of the ninth segment and tube. The eighth ventrite bears a narrow glandular area nearly across the whole width of the segment.

Measurements: Head length 0.228; head width 0.202; prothorax length 0.193; prothorax width 0.308; pterothorax in front 0.413; tube length 0.193; tube width at base 0.061, at end 0.044.

Antennal segments:	1	2	3	4	5	6	7	8	Total
Length .....	.041	.049	.061	.057	.057	.049	.049	.041	.398
Width .....		.032	.036	.036	.032	.028	.024	.016	

Described from the female holotype, the male allotype, and two male and two female paratypes; collected by N. L. H. Krauss in Bois du Sud, New Caledonia, in July 1950. These, and a series which is preserved in alcohol, were found in "rolled leaves of an undetermined plant."

*A. pacificus* is the third species of the genus to be described. The other two *A. ramakrishnae* Hood (Insec. Insc. Mens., 1919, 7:99) and *A. dhumrapaksha* Ayyar (Mem. Dept. Agric. India, 1928, 10,7:28) are both Indian. The three seem to be closely related, but they can be separated by the following differences, according to description: *A. pacificus* has the margin of the eyes emarginate around the ocelli. In *dhumrapaksha* the postoculars are longer than the eye; in *pacificus* and *ramakrishnae*, shorter. In *pacificus* the antero-marginal and midlateral bristles of the prothorax are long and dilated at the tip; in *ramakrishnae* they are short and pointed, and in *dhumrapaksha* not mentioned. In *dhumrapaksha* the sides of the eighth ventral segment project in the middle; not so in

either *ramakrishnae* or *pacificus*. In *dhumrapaksha* and *ramakrishnae* all three basal bristles of the fore wings are expanded; in *pacificus* the distal bristle is shorter than the others and pointed. In *dhumrapaksha* the front wings bear ten duplicate ciliae; in *pacificus* and *ramakrishnae* the number is fifteen or more.

***Leeuwenia angulata* sp. nov. (figures D, E)**

*Macropterous female*.—Color by transmitted light, brown; the tube, ninth abdominal segment, and fore part of mesothorax darkest; abdominal segments 1 to 7 palest, yellow laterally, as are the fore angles of 8; segments 2, 3, 4, particularly 3, nearly translucent medially. Ocellar crescents and subhypodermal pigment red; the pigment scattered laterally on the pterothorax and the first four abdominal segments. Striation rugose and reticular, more distinctly so between and behind the eyes, on the prothorax, on the metascutum and metapleura, on the front half of the abdominal tergites, on the base of the tube, and on the legs. Most of the body, particularly the legs and tube, densely beset with microtrichia. Wings pale brownish yellow; fore wing with an irregular brown area on the second quarter; hind wing with a narrow brown band along the middle from base to near the end.

Antennae shaped as illustrated. Segments 1, 7, 8 entirely brown; 2 fading to yellow distally; 3 entirely pale yellow; 4 and 5 somewhat darker yellow, with 5 barely suffused with brown distally; 6 yellow at base, gradually turning to brown on distal half.

Head 0.34 mm. long on the midline and 0.28 mm. wide at base, 0.25 mm. wide across the eyes; without developed setae. Cheeks straight and converging to near the eyes, then curving weakly outward at the hind angle of the eye, and inward again at almost a right angle. Vertex produced into a rounded prominence which bears the three ocelli, the front one directed forward and slightly surpassing the insertion of the antennae and the front margin of the eyes, but not the interantennal costa. Eyes with about 12 facets on the outer margin; the inner hind angle rounded and somewhat produced caudally. Mouth cone broadly rounded at end and almost attaining margin of prosternum.

Prothorax 1.4 as wide as head and somewhat more than half as long, with front margin weakly concave, the front angles rounded, and the sides weakly diverging posteriorly. Pronotum reticulate and bearing many microsetae; disk broadly depressed medianly and raised caudo-laterally to a well-marked carina which curves in from either side; each posterior angle produced dorso-caudally into a prominence which bears a pale, stiff seta at its summit and is separated from the disk by the sharply excavate epimeral suture. Pterothorax much wider than prothorax, 0.49 mm. wide in front. Sides of metathorax swollen. Legs rugosely reticulate, with one or two short stiff bristles distally on the tibiae and with many microsetae all over, otherwise unarmed; tarsi without claws.

Abdomen of nearly equal width to segment 8; segment 9 suddenly narrower and cone shaped; segments 2 to 7 with well developed pair of sigmoid setae on each side; 2 to 8 with a stout seta (about 0.079 mm. long) on each posterior angle; 9 with two such setae. Tube about four times as long as head, suddenly expanded near the base and suddenly constricted near the end, otherwise of nearly even width; with many rather appressed, short (0.035 mm. long) setae which disappear near the base and near the end of the tube; with a distal rosette of setae about 0.21 mm. long.

Measurements in mm.: Total length 3.83, fully extended; median length of head 0.308; cheek length 0.193; eye length 0.123; head width at base 0.281; head width across eyes 0.237; prothorax length 0.167; prothorax width 0.404; width of mesothorax on front angles 0.492; tube length 1.26; tube width at extreme base 0.088.

Antennal segments:	1	2	3	4	5	6	7	8	Total
Length .....	.041	.061	.122	.102	.102	.073	.061	.045	.607
Width .....	.041	.036	.028	.036	.036	.032	.028	.016	

Described from a single female collected by N. L. H. Krauss in Saint Louis, New Caledonia, in June 1950. The male is unknown.

To judge from the produced vertex of this species its nearest relative should be *L. caelatrix* Karny (Treubia 3:368, 1923). The two species cannot be confused, however, as they differ in antennal color, in the presence of antero-angular setae on the prothorax of *caelatrix*, and in the peculiar post-ocular development of the cheeks in *angulata*. To judge from descriptions alone, this character should differentiate *angulata* from all the other known members of the genus, as well. It has suggested the name *angulata*.

### *Oxythrips festivus* sp. nov. (figures A, B and C)

*Macropterous female*.—Color by transmitted light, chestnut brown, except tarsi and tibiae which are pale yellow; the middle and hind tibiae lightly brown at extreme base and all tarsi with brown macula on distal segment. Ocellar crescents and sub-hypodermal pigment red. Antennal segment 1 concolorous with body; 2 concolorous basally but lighter distally; 3, 4, 5 concolorous with tibiae; 6, 7, 8 light brown except basal 3d of 6 which is concolorous with 5. Fore wing light brown, nearly clear on basal fourth; veins, beyond basal area of wing, indicated only by series of short brown setae; fore vein with 6-1-1-1; hind vein with 9 equally spaced in the middle; costa with about 20. Hind wing paler than fore wing, with darker mid-vein fading near base and apex.

Head wider than long, striated with confluent lines on basal half; eyes slightly protruding; cheeks nearly straight; ocelli widely separated, with interocellar setae nearer to hind ocelli and just within sides of triangle; front somewhat angular, with two minute setae on either side, one next to the eye and the other near midline; a series of four or five minute setae caudad of the base of each eye and a somewhat stronger one caudad of each ocellus. Mouth cone rounded at end and attaining middle of pronotum.

Prothorax angular in front, broadly rounded in back; disk with four to six pairs of microsetae; anterior margin with three on each side and a somewhat stouter one on each front angle; posterior margin on each side with a small seta (.004 mm.) outwardly, followed by a microseta, then a large seta (.016 mm.) followed by a series of three microsetae. Metascutum finely punctate medianly and with only a few confluent striae laterally and caudally; two inner setae distant about their own length from the front margin, and two outer setae nearly on the margin; two pores caudad of the inner setae, placed as far from the midline as the setae and a little farther back from the bases of the setae than these are from the front margin of the metascutum. Legs normal; fore femora shorter and stouter than others; tarsi unarmed.

Abdominal tergite 1 with pori on transverse midline; tergites 2 to 7 with short, irregular, comb-line extension of hind margin near the posterior angle of each tergite; tergite 8 with more regular and longer comb on entire margin; segment 10 conical and split dorsally nearly to its base. Bristles on 9 dark, much longer and stouter than those on 10.

Measurements of female in mm.: Total length 1.2, fully extended; head length 0.135; head with 0.168; eye length 0.069; eye width 0.049; inter-ocellar setae 0.024; prothorax length 0.135; prothorax width 0.184; outer seta on hind angle 0.016; inner seta on hind angle 0.041; longest seta on 9th abdominal segment 0.135.

Antennal segments:	1	2	3	4	5	6	7	8	Total
Length .....	.020	.036	.053	.053	.036	.053	.012	.016	.273
Width .....	.032	.028	.020	.016	.016	.018	.008	.004	

*Brachypterous male*.—In color and shape like the female but smaller, 0.86 mm. long; forked trichomes on antennal segments 3 and 4 shorter; comb on abdominal segment 8 lacking and on other segments either lacking or nearly so. Wings wide for their length but reaching only to the 3d abdominal segment and with only 4 or 5 setae on the anterior vein. Abdominal tergite 9 bearing a relatively large porus near each anterior angle, a thick sharp seta (0.024 mm. long) caudo-laterad of the porus, a thicker, shorter (0.012 mm. long), blunt seta near the midline of the segment, a pore laterad of this seta, and a long, stout bristle at each hind angle. Segment 10 short and cone-like. Ventrites 3 to 7 with oval sense areas about 0.053 mm. long, and 0.020 mm. wide.

Described from the female holotype, the male allotype, and three female and two male paratypes, all collected by N. L. H. Krauss in Bois du Sud, New Caledonia, in July 1950.

While undoubtedly a true *Oxythrips*, this new species can be distinguished from all others of the genus by the peculiar combination of its less unique characters and, more particularly, by the comb-like development on the posterior angles of abdominal segments 2 to 7.